

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of:

JAMEY GRAHAM

Application No.: 09/348,652

Filed: July 6, 1999

For: METHOD AND SYSTEM FOR  
CREATING A DOCUMENT INTEREST  
PROFILE

Customer No.: 20350

Confirmation No. 5555

Examiner: Cesar B. Paula

Technology Center/Art Unit: 2178

APPELLANT'S BRIEF UNDER 37 C.F.R.  
§1.192

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P.O. Box 1450  
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Sir:

Appellant offers this Appeal Brief in furtherance of the Notice of Appeal filed on March 30, 2006 in the above-referenced patent application. Please deduct the requisite fee pursuant to 37 C.F.R. §1.17(c) of \$500 from deposit account 20-1430 and deduct any additional fees or credit any excess fees associated with the Appeal Brief to such deposit account. Appendix A, attached hereto, contains a copy of all claims pending in this case.

I. REAL PARTY IN INTEREST

All right, title, and interest in the subject invention and application are assigned to Ricoh Company, Ltd., of Tokyo, Japan. Therefore, Ricoh Company, Ltd. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

No other appeals or interferences are known which will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-5, 7-8, 10-15, 17-18, 20-25, 27-28, and 30-37 are pending in this application and have been rejected. Claims 6, 9, 16, 19, 26, and 29 stand cancelled. Claims 1-5, 7-8, 10-15, 17-18, 20-25, 27-28, and 30-37 are the subject of this appeal.

IV. STATUS OF AMENDMENTS:

An amendment filed under 37 CFR §1.116 was mailed on August 5, 2005, in response to the Office Action mailed May 5, 2005. The amendment was entered by the Examiner. A copy of the pending claims, after entry of the Amendment, is provided in Appendix A attached hereto.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Generally, the present invention relates to providing "interest profiles" for electronic documents, with features to enhance the experience of reading or using an electronically stored document (Application, page 1 line 16 - 18).

Independent claims 1, 11, and 21 recite methods, computer program code, and systems (respectively) for analyzing an electronically stored document. User input is received identifying a user-specified concept of interest, and the electronically stored document is analyzed to identify occurrences of discussion in the electronically stored document of the user-

specified concept of interest (Application page 7 line 3 - page 12 line 32, FIGs. 2 and 3, FIG. 4 command box 404, FIG. 5 concept indicators 506, FIG. 7A concept indicators 706, FIG. 7C concept indicator 706a, FIG. 7D concept indicators 706a, 706b). A visual indicator is displayed showing persistence values of the user-specified concept of interest at locations within the electronically stored document (Application page 5 line 17 - page 7 line 2, FIG. 1A annotation contour 101, FIG. 1B annotation contour 103, page 8 line 16 - page 10 line 3, FIG. 4 annotation contour 402, FIG. 5 annotation contour 520, page 11 line 11 - page 12 line 32, FIG. 7A annotation contour 712, FIG. 7C annotation contour 712, FIG. 7D annotation contour 712). The persistence values of the user-specified concept of interest at the locations is determined based upon a number of the occurrences of discussion of the user-specified concept of interest at the locations (Id.). For a location within the electronically stored document, the visual indicator displays a persistence value of the user-specified concept of interest at that location relative to persistence values of the user-specified concept of interest at other locations in the electronically stored document. The visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest (e.g., Application, FIG. 1A annotation contour 101, FIG. 1B annotation contour 103, FIG. 5 concept indicators 506, FIG. 7A-7D annotation contour 712).

Independent claims 10, 20, and 30 recite methods, computer program code, and systems (respectively) for displaying an electronically stored document (for support in the Application, please see citations above with respect to claims 1, 11, 21). User input is received identifying a plurality of user-specified concepts of interest, and a plurality of selectable concept indicators is displayed corresponding to the user-specified concepts of interest. User input is accepted selecting a first selectable concept indicator from the plurality of selectable concept indicators corresponding to a first user-specified concept of interest. The electronically stored document is analyzed to identify occurrences in the document where the first user-specified concept of interest is discussed. A visual indicator is displayed showing persistence values of the first user-specified concept of interest at locations in the document. The persistence values of the first user-specified concept of interest at the locations are determined based upon a number of the occurrences of discussion of the first user-specified concept of interest at the locations. For a

location within the document, the visual indicator displays a persistence value of the first user-specified concept of interest at that location relative to persistence values of the first user-specified concept of interest at other locations in the electronically stored document. The visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.

Independent claim 37 recites a method for displaying an electronically stored document (for support in the Application, please see citations above with respect to claims 1, 11, 21). User input identifying a first concept of interest and a second concept of interest is received. The electronically stored document is analyzed to identify occurrences of discussion of the first concept of interest and the second concept of interest in the electronically stored document. Persistence values of the first concept of interest at locations within the electronically stored document are determined based upon the occurrences of discussion of the first concept of interest in the electronically stored document. Persistence values of the second concept of interest at locations within the electronically stored document are determined based upon the occurrences of discussion of the second concept of interest in the electronically stored document. Combined persistence values of the first concept of interest and the second concept of interest at locations within the electronically stored document are determined based upon the persistence values of the first concept of interest and the persistence values of the second concept of interest at locations within the electronically stored document (Application, page 6 line 27 - page 7 line 2, FIG. 1B, FIG. 7D annotation contour 712). A visual indicator is displayed showing the combined persistence values of the first concept of interest and the second concept of interest at locations within the electronically stored document (Id).

The claims do not require the document itself to be displayed. The visual indicator alone (e.g., FIG. 1A and FIG. 1B) conveys information to a reader regarding relative occurrences of a user-specified concept of interest at locations within the document. For example, the user may determine from the visual indicator the interest profile of the document, including which locations within the document discuss the concept and at what relative concentrations the concept is discussed at the locations in the document.

Where a document is displayed in addition to the visual indicator, the user is provided with a readily understandable relative profile of the user's concepts of interest within the document. For example, as discussed in the Application at page 9 lines 10-31 and as depicted in FIG. 5, a user can select from one or more concepts of interest (e.g., "Wearable"), and an electronically stored document is analyzed to identify occurrences of discussion of the Wearable concept. The visual indicator is displayed (annotation contour 520) showing persistence values of the Wearable concept at locations within the document based upon a number of the occurrences of discussion of the Wearable concept at the locations. Annotation contour 520 displays a line graph profile of the document with respect to the Wearable concept, with a first axis representing locations within the document and a second axis representing relative persistence values of the Wearable concept. The user can therefore readily determine which locations of the document discuss the concept, which locations do not discuss the concept, and at what relative concentrations the concept is discussed at the locations.

In the preceding summary of claimed subject matter, Appellants have provided exemplary references to sections of the specification and drawings supporting the subject matter of the claims as required by 37 C.F.R. § 41.37. The specification and drawings also include additional support for other exemplary embodiments encompassed by the claimed subject matter. Thus, these references are intended to be illustrative in nature only.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A. Whether claims 1-5, 8, 11-15, 17-18, 21-25, 27-28, and 33 are obvious under 35 U.S.C. §103(a) over Ball et al. (“Software Visualization in the Large”, IEEE Computer, vol. 29, no. 4, pp. 33-43; hereafter “Ball”) in view of Card et al. (“Readings in information Visualization Using Vision to Think”, hereafter “Card”).
- B. Whether claims 10, 20, 30, 32, 34, and 36 are obvious under 35 U.S.C. §103(a) over Aalbersberg (U.S. Patent 5,946,678; hereafter “Aalbersberg”) in view of Card.
- C. Whether claim 37 is obvious under 35 U.S.C. §103(a) over Aalbersberg in view of Card.
- D. Whether claims 7, 31, and 35 are obvious under 35 U.S.C. §103(a) over Ball in view of Card, further in view of Wroblewski, et al. (U.S. Patent 5,479,600; hereafter “Wroblewski”).

VII. ARGUMENT

It is well known that in order to establish a prima facie case of obviousness under 35 USC §103, three basic criteria must be met. The prior art reference (or references when combined) must teach or suggest all the claim limitations. There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. There must be a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. MPEP §2142.

**A. Claims 1-5, 8, 11-15, 17-18, 21-25, 27-28, and 33 are not obvious under 35 U.S.C. §103(a) over Ball in view of Card.**

**Independent claims 1, 11, and 21.**

With respect to independent claims 1, 11, and 21, Appellant respectfully submits that a prima facie case of obviousness has not been made in the Final Office Action mailed November 30, 2005 (hereafter, "Final Office Action"), because the Examiner's rejection fails on at least one of the requirements of §103 analysis. First, Applicants submit that the Examiner appears to have conflated the limitations of the claims and the prior art do not teach or suggest "all the claim limitations," MPEP 706.02(j). Second, Applicants submit that there is no motivation to combine the references. Third, Applicants submit that even if the references were combined, there would not be a reasonable expectation of success.

**1. The cited references do not teach or suggest all limitations of independent claims 1, 11, and 21.**

Applicants respectfully submit that the Examiner has not provided a *prima facie* case of obviousness because Ball, Card, and/or the combination thereof do not teach or suggest all the limitations of claims 1, 11, and 21. "All words in a claim must be considered in judging the patentability of that claim against the prior art," *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), MPEP §2143.03. Applicants respectfully submit that the Examiner appears to have conflated the limitations of claims 1, 11, and 21 and has not evaluated all words in the claims, which include in one form or another:

displaying a visual indicator showing persistence values of the user-specified concept of interest at locations within the electronically stored document, the persistence values of the user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the user-specified concept of interest at the locations,

wherein, for a location within the electronically stored document, the visual indicator displays a persistence value of the user-specified concept of interest at that location relative to persistence values of the user-specified concept of interest at other locations in the electronically stored document,

wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.

With respect to independent claim 1 (and claims 11 and 21 rejected on similar grounds), the Examiner states at pages 4 -5 of the Final Office Action that Ball discloses the

color-coding of a document based on a concept of interest—code age—input by a user. The Examiner admits that Ball fails to disclose a visual indicator showing persistence values of the user-specified concept of interest, but stated that

Card teaches the display of a graphical widget—visual indicator—which allows one selection to determine two values (fig.9, page 242, col.3, parag.2). [It would have been obvious to combine Ball and Card] because Card teaches the benefit of permitting humans to recognize spatial configuration, relationships among elements of the 2D widget, quickly. This also entails that people can grasp the content in the widget faster than they could scan, and understand text (page 241, col. 1, last parag.-col.3). This would enable a user to be able to easily navigate a file by quickly locating desired words in a document by spotting the places where the words are located and distributed by merely looking at a single location in the widget.

Applicants submit that Card does not teach or suggest the visual indicator as recited in claims 1, 11, and 21. Card is directed to multidimensional database analysis using methods for dynamic queries that "apply the principles of direct manipulation to the database environment," Card, page 236. A dynamic query involves the interactive control by a user of visual database query parameters that generate visual display of database search results, Id. The portion of Card cited by the Examiner speaks only to database analysis: "[T]wo-dimensional input widgets to select two values at once [were created by which] only one selection is required to set two values... In Figure 9, for example, the dotted areas indicate impossible selections (the cheapest seven-bedroom house is \$310,000)." Therefore, Card relates to database manipulation, so that a user can manipulate a database containing real estate housing data such as home price, number of bedrooms, etc., Card Figure 1, page 237.

Card does not teach all elements of the visual indicator as recited in claims 1, 11, and 21. In particular, there is no teaching or suggestion in Card that the visual indicator displays a persistence value of a user-specified concept of interest at a location relative to persistence values of the user-specified concept of interest at other locations in an electronically stored document. Further, there is no teaching or suggestion in Card of displaying a visual indicator showing persistence values of a user-specified concept of interest "at locations" within a document, as recited in claims 1, 11, and 21, because there is no "location" within a database.

Even if Ball and Card were combined, the combination would not teach or suggest all elements of claims 1, 11, and 21. For example, the graphical input widget of Card combined with the methods for software visualization of statistics such as "code age" in Ball



might allow a software analyst to move the input widgets and manipulate the statistics associated with the code, so that newer or older sections of code may be displayed. Note that Figure 7 of Card "lets users explore Unix directories" with "[s]liders for file size...and age," page 238, Figure 7. However, such a statistical analysis of software code does not operate to display a visual indicator showing relative persistence values of a user-specified concept of interest at locations within a document, as recited in claims 1, 11, and 21.

In addition, there is no teaching or suggestion in Card that the graphical input widget can be applied to anything other than database analysis. The Examiner provides no explanation of how the graphical input widget of Card can be applied to displaying a visual indicator for persistence values of concepts at locations in a document. Therefore, because Card does not teach or suggest a visual indicator as recited in claims 1, 11, and 21, Applicants submit that the Examiner has not presented a *prima facie* case of obviousness.

## **2. There is no motivation or suggestion to combine Ball and Card.**

"Impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art," MPEP §2142.

In the Final Office Action at pages 4-5, the Examiner states that it would have been obvious to combine the references,

because Card teaches the benefit of permitting humans to recognize spatial configuration, relationships among elements of the 2D widget, quickly. This also entails that people can grasp the content in the widget faster than they could scan, and understand text (page 241, col. 1, last para.-col.3). This would enable a user to be able to easily navigate a file by quickly locating desired words in a document by spotting the places where the words are located and distributed by merely looking at a single location in the widget.

Applicants submit that a person of ordinary skill in the art would not be motivated to combine the Ball and Card references, because Card is not related to displaying persistence values at locations in a document relative to persistence values at other locations in the document, as recited in claims 1, 11, and 21. As noted above, Card is directed to database analysis. Regardless of the Examiner's assertion that Card teaches the benefit of permitting humans to recognize spatial configuration, the Examiner provides no clear explanation of how the graphical input widget of Card can be applied to anything other than database analysis. Certainly, the Examiner has not provided a clear explanation of how the graphical input widget

of Card can be applied to displaying persistence values at locations in a document relative to persistence values at other locations in the document as recited in claims 1, 11, and 21.

Therefore, Applicants submit that the Examiner has not shown a *prima facie* case of obviousness.

Further, Ball is directed to software visualization techniques including display of statistics such as when each line of code was modified, which programmer wrote which lines of code, a number of times a particular line executed, and the like. However, the Examiner does not point to any teaching or suggestion in Ball that a person of ordinary skill in the art would be motivated to combine the software visualization techniques of Ball with the database analysis techniques of Card.

Applicants therefore submit that the only motivation for combining Ball and Card would be based upon impermissible hindsight using the present disclosure. Applicants submit that, absent the present disclosure, a person of ordinary skill in the art would not be motivated combine the numeric database query techniques of Card with the software visualization techniques of Ball. Because a person of ordinary skill in the art would not be inclined to combine the references, Applicants therefore submit that the Examiner has not provided a *prima facie* case of obviousness.

**3. There is no reasonable expectation of success from combining Ball and Card.**

Applicants submit that there is no reasonable expectation of success found in the Ball and Card references. In addition, Applicants submit that the principle of operation of Card would need to be changed in order for the Examiner's proposed combination to work.

In the Final Office Action at pages 4-5, the Examiner states that it would have been obvious to combine the references,

because Card teaches the benefit of permitting humans to recognize spatial configuration, relationships among elements of the 2D widget, quickly. This also entails that people can grasp the content in the widget faster than they could scan, and understand text (page 241, col. 1, last parag.-col.3). This would enable a user to be able to easily navigate a file by quickly locating desired words in a document by spotting the places where the words are located and distributed by merely looking at a single location in the widget.

However, Card evidences the unpredictability of the combination asserted by the Examiner. Card states at page 239 col. 3 - page 240 col. 3:

current dynamic query approaches can implement only simple queries that are conjunctions of disjunctions, plus range queries on numeric values... More elaborate queries (group by, set matching, universal quantification, transitive closure, string matching), are still research-and-development problems.

Therefore, Applicants submit that Card evidences that the state of the art is such that database queries beyond mere Boolean queries is a problem for which solutions are not well known in the art. Card states that a person of ordinary skill would not likely be successful in making the combination proposed by the Examiner.

In addition, Applicants submit that Card would need to be dramatically altered to provide the functions proposed by the Examiner, which makes Card inapposite. "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)", MPEP §2143.01(VI). Card is directed to manipulation of database search queries [e.g., SQL's], and not to analysis of documents. In particular, there is no teaching or suggestion in the references or in the art that the database analysis techniques of Card may be used to display persistence values at a location in a document relative to persistence values at other locations in the document. Applicants submit that the principle of operation of Card would likely need to be modified to provide display of persistence values at a location in a document relative to persistence values at other locations in the document as recited in claims 1, 11, and 21.

Dependent Claims 2-5, 7-8, 12-15, 17-18, 22-25, 27-28, 31, 33, and 35

Applicant submits that independent claims 1, 11, and 21 should be allowed for at least the reasons discussed above. If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious, In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, Applicants submit that claims 2-5, 7-8, 12-15, 17-18, 22-25, 27-28, 31, 33, and 35 are nonobvious and should be allowed. Applicants note that the dependent claims recite additional features that are not taught or suggested by the cited references, considered individually or in combination, and are thus allowable for additional reasons.

**B. Claims 10, 20, 30, 32, 34, and 36 are not obvious under 35 U.S.C. §103(a) over Aalbersberg in view of Card.**

Independent claims 10, 20, and 30

With respect to independent claims 10, 20, and 30, Appellant respectfully submits that a *prima facie* case of obviousness has not been made in the Final Office Action because the Examiner's rejection fails on at least one of the of §103 requirements. First, Applicants submit that the prior art do not teach or suggest all the claim limitations. Second, Applicants submit that there is no motivation to combine the references. Third, Applicants submit that even if the references were combined, there would not be a reasonable expectation of success.

**1. Aalbersberg, Card and/or the combination do not teach all elements of independent claims 10, 20, and 30.**

Applicants respectfully submit that the Examiner has not provided a *prima facie* case of obviousness because Aalbersberg, Card, and/or the combination thereof do not teach or suggest all limitations of claims 10, 20, and 30. Applicants respectfully submit that the Examiner appears to have conflated the limitations of claims 10, 20, and 30 and has not evaluated all words in the claims, which include

analyzing said electronically stored document to identify occurrences in said electronically stored document where said first user-specified concept of interest is discussed; and displaying a visual indicator showing persistence values of the first user-specified concept of interest at locations in said electronically stored document, the persistence values of the first user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the first user-specified concept of interest at the locations,

wherein, for a location within the electronically stored document, the visual indicator displays a persistence value of the first user-specified concept of interest at that location relative to persistence values of the first user-specified concept of interest at other locations in the electronically stored document,

wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.

Applicants submit that Aalbersberg does not teach or suggest analyzing an electronically stored document to identify "where" a first user-specified concept of interest is discussed. As noted in previous Amendments in response to rejections based on Aalbersberg (Amendment dated October 28, 2003 in response to July 28, 2003 Office Action at pages 14-15, Amendment dated January 23, 2003 in response to October 23, 2002 Office Action at pages 12-

15), Aalbersberg teaches techniques for displaying information that indicates the relevance or weight of each query word in the selection of a document. However, Aalbersberg does not identify occurrences of "where" within a document a concept of interest is discussed. In particular, Aalbersberg does not provide any indication as to how query words are distributed or concentrated at various points within the document.

Card does save this deficiency of Aalbersberg. As noted above with respect to the rejection of claims 1, 11, and 21, Card teaches database analysis, and there is no "location" within a database.

In addition, Applicants submit that Card does not teach or suggest displaying a visual indicator as recited in claims 10, 20, and 30. With respect to the rejection of claim 10 over Aalbersberg in view of Card (and claims 20 and 30 on similar grounds), the Examiner admitted at pages 8-9 of the Final Office Action that Aalbersberg fails to explicitly disclose

a visual indicator showing persistence values of the first-user specified concept of interest at locations in said electronically stored document, the persistence values of the first user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the first user-specified concept of interest at the locations, wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user specified concept of interest. However, Card teaches the display of a graphical widget--visual indicator--which allows one selection to determine two values (fig.9, page 242, col.3, parag.2). Therefore, it would have been obvious [to combine the references]. Original emphasis removed.

As noted above with respect to the rejection of claims 1, 11, and 21, the portion of Card cited by the Examiner merely states that two-dimensional graphical input widgets can be used to manipulate a database in two dimensions. Applicants struggle to understand how Card could be read to teach or suggest identifying occurrences "where" a concept of interest is discussed in a document, or a visual indicator showing relative persistence values of a first user-specified concept of interest at locations in the document.

Since neither Aalbersberg nor Card teach or suggest displaying a visual indicator showing persistence values of a concept "at locations" within a document, as recited in claims 10, 20, and 30, even if the references were combined, the resultant combination would also fail to teach or suggest such a feature. Therefore, for the sake of argument only, even if Aalbersberg

were combined with Card, the resultant combination would not teach or suggest all elements of claims 10, 20, and 30. In particular, the combination would not be operative to identify occurrences "where" in a document a concept of interest is discussed. Further, the combination would not be operative to display a visual indicator showing persistence values at a "location" relative to persistence values at other locations.

Since Aalbersberg and Card are silent as to locations of discussion of concepts of interest within a document, Applicants submit that Aalbersberg, Card and/or the combination do not teach or suggest all limitations of independent claims 10, 20, and 30. In addition, because Aalbersberg, Card, and the combination do not teach or suggest displaying a visual indicator as recited in claims 10, 20, and 30, Applicants submit that the Examiner has not provided a *prima facie* case of obviousness.

## **2. There is no motivation to combine Aalbersberg and Card.**

In the Final Office Action on page 9, the Examiner states that it would have been obvious to combine the references,

because Card teaches the benefit of permitting humans to recognize spatial configuration, relationships among elements of the 2D widget, quickly. This also entails that people can grasp the content in the widget faster than they could scan, and understand text (page 241, col. 1, last para.-col.3). This would enable a user to be able to easily navigate a file by quickly locating desired words in a document by spotting the places where the words are located and distributed by merely looking at a single location in the widget.

Applicants submit that a person of ordinary skill in the art would not be motivated to combine the Aalbersberg and Card references. As noted above with respect to the rejection of claims 1, 11, and 21, the graphical input widget of Card relates to database analysis or manipulation. Regardless of the Examiner's assertion that Card teaches the benefit of permitting humans to recognize spatial configuration, the Examiner provides no clear explanation of how the graphical input widget of Card can be applied to anything other than database analysis. There is no teaching or suggestion in Card that the graphical widget can be applied to analyzing occurrences "where" a concept of interest is discussed in a document, as recited in claims 10, 20, and 30. In addition, there is no teaching or suggestion in Card of how the graphical input widget can be applied to display a persistence value of a first user-specified concept of interest at a

location relative to persistence values of the first user-specified concept of interest at other locations in the document. Therefore, Applicants submit that a person of ordinary skill in the art would not be motivated to combine the Aalbersberg and Card references.

Further, Aalbersberg is silent as to "where" a concept of interest is discussed in a document, therefore Card and Aalbersberg are deficient at least in this regard. Applicants submit that a person of ordinary skill in the art would not be motivated to combine Aalbersberg and Card in order to analyze "where" in a document a first user-specified concept of interest is discussed, or to display a persistence value of a first user-specified concept of interest at a location relative to persistence values of the first user-specified concept of interest at other locations in the document, as recited in independent claims 10, 20, and 30.

Applicants submit that the only motivation for the combination of Aalbersberg and Card proposed by the Examiner is based upon impermissible hindsight using the present disclosure. Applicants submit that a person of ordinary skill in the art would not be motivated to combine the database query techniques of Card with the query word relevance techniques of Aalbersberg. Because a person of ordinary skill in the art would not be motivated to combine the references, Applicants submit that the Examiner has not provided a *prima facie* case of obviousness.

### **3. No reasonable chance of success from combining Aalbersberg and Card.**

Applicants submit that there is no reasonable expectation of success found in the Aalbersberg and Card references. In addition, Applicants submit that the principle of operation of Card would need to be changed in order for the Examiner's proposed combination to work. As noted above with respect to the rejection of claims 1, 11, and 21, Applicants submit that Card evidences the unpredictability of the combination asserted by the Examiner. Card evidences that the state of the art is such that queries beyond mere Boolean numeric queries is a problem for which solutions are not well known in the art. As further noted above, Applicants submit that Card would need to be dramatically altered to provide the functions proposed by the Examiner, which makes Card inapposite.

Because there is no reasonable expectation of success found in the Aalbersberg and Card references, Applicants submit that the Examiner has not provided a *prima facie* case of obviousness.

Dependent claims 32, 34, and 36

Applicant submits that independent claims 10, 20, and 30 are nonobvious and should be allowed for at least the reasons discussed above, and others. Therefore, dependent claims 32, 34, and 36 are nonobvious, *In re Fine*. Applicants note that the dependent claims recite additional features that are not taught or suggested by the cited references, considered individually or in combination, and are thus allowable for additional reasons.

**C. Claim 37 is not obvious under 35 U.S.C. §103(a) over Aalbersberg in view of Card.**

With respect to independent claim 37, Appellant respectfully submits that a *prima facie* case of obviousness has not been made in the Final Office Action. First, Applicants submit that the Examiner appears to have conflated the limitations of the claim and the prior art do not teach or suggest all the claim limitations. Second, there is no motivation to combine the references. Third, there is not a reasonable expectation of success.

**1. The cited references do not teach or suggest all limitations of independent claim 37.**

Applicants respectfully submit that the Examiner has not provided a *prima facie* case of obviousness because Aalbersberg, Card, and/or the combination thereof do not teach or suggest all limitations of claim 37. Applicants respectfully submit that the Examiner appears to have not evaluated all words in the claim, which includes

determining persistence values of the first concept of interest at locations within the electronically stored document based upon the occurrences of discussion of the first concept of interest in the electronically stored document;

determining persistence values of the second concept of interest at locations within the electronically stored document based upon the occurrences of discussion of the second concept of interest in the electronically stored document;

determining combined persistence values of the first concept of interest and the second concept of interest at locations within the electronically stored document based upon the



persistence values of the first concept of interest and the persistence values of the second concept of interest at locations within the electronically stored document; and  
displaying a visual indicator showing the combined persistence values of the first concept of interest and the second concept of interest at locations within the electronically stored document.

As noted above with respect to claims 10, 20, and 30, Aalbersberg does not teach or suggest analyzing an electronically stored document to identify "locations" in a document where a concept of interest is discussed. Card does not solve this deficiency of Aalbersberg. For at least this reason, Applicants submit that the Examiner has not provided a *prima facie* case of obviousness.

In addition, Card does not teach or suggest displaying a visual indicator as recited in claim 37. In the Final Office Action at page 11, the Examiner admitted that Aalbersberg fails to explicitly teach

determining a combined persistence values [sic] and displaying a visual indicator showing the combined persistence values of the first and the second concept of interest at locations within the electronically stored document[.] However, Card teaches the display of a graphical widget--visual indicator--which allows one selection to determine two values [so that it would be obvious to combine the references]. Original emphasis removed.

As noted above, the portion of Card cited by the Examiner merely states that two-dimensional graphical input widgets can be used to manipulate a database in two dimensions. Card does not teach or suggest identifying "locations" in a document where a concept of interest is discussed, or a visual indicator showing persistence values of a first user-specified concept of interest at locations in a document.

Since neither Aalbersberg nor Card teach or suggest displaying a visual indicator showing persistence values of a concept "at locations" within a document, as recited in claim 37, even if the references were combined, the resultant combination would also fail to teach or suggest such a feature. Therefore, for the sake of argument only, even if Aalbersberg were combined with Card, the resultant combination would not teach or suggest all elements of claim 37. In particular, the combination would not be operative to identify locations in a document where a concept of interest is discussed. Further, the combination would not be operative to display a visual indicator showing a combined persistence value at locations in the document.

Since Aalbersberg and Card are silent as to locations of discussion of concepts of interest within a document, Applicants submit that Aalbersberg, Card and/or the combination do not teach or suggest all limitations of independent claim 37. In particular, since neither Aalbersberg nor Card determine "locations" within a document, then Card cannot determine combined persistence values at locations within the document based on the persistence values of the first and second concept at locations within the document. In addition, because Aalbersberg, Card, and the combination do not teach or suggest displaying a visual indicator as recited in claim 37, Applicants submit that the Examiner has not provided a *prima facie* case of obviousness.

**2. There is no motivation to combine Aalbersberg and Card.**

As noted above with respect to independent claims 10, 20, and 30, a person of ordinary skill in the art would not be motivated to combine the Aalbersberg and Card references. The graphical input widget of Card relates to database analysis or manipulation. The Examiner provides no clear explanation of how the graphical input widget of Card can be applied to anything other than database analysis. There is no teaching or suggestion in Card that the graphical widget can be applied to analyzing "locations" where a concept of interest is discussed in a document. In addition, there is no teaching or suggestion in Card of how the graphical input widget can be applied to display a combined persistence value of a first user-specified concept of interest and a second user-specified concept of interest at locations in the document. Therefore, Applicants submit that a person of ordinary skill in the art would not be motivated to combine the Aalbersberg and Card references.

Further, as noted above, Aalbersberg is silent as to "locations" of discussion in a document, and Card does not correct this deficiency of Aalbersberg. Therefore, a person of ordinary skill in the art would not be motivated to combine Aalbersberg and Card in order to analyze locations in a document where a first and a second user-specified concept of interest are discussed, or to display a combined persistence value of the first and second user-specified concepts of interest, as recited in independent claim 37.

Applicants submit that the only motivation for the combination of Aalbersberg and Card proposed by the Examiner is based upon impermissible hindsight using the present

disclosure. Applicants submit that a person of ordinary skill in the art would not combine the database query techniques of Card with the query word relevance techniques of Aalbersberg. Because a person of ordinary skill in the art would not be inclined to combine the references, Applicants therefore submit that the Examiner has not provided a *prima facie* case of obviousness.

**3. There is no reasonable chance of success from combining Aalbersberg and Card.**

As noted above, there is no reasonable expectation of success found in the Aalbersberg and Card references. In addition, the principle of operation of Card would likely need to be changed in order for the Examiner's proposed combination to work. Further, as noted above, Card evidences the unpredictability of the combination asserted by the Examiner, that the state of the art is such that queries beyond mere Boolean numeric queries is a problem for which solutions are not well known. The principle of operation of Card would need to be altered to provide the functions proposed by the Examiner, which makes Card inapposite. Because there is no reasonable expectation of success found in the Aalbersberg and Card references, Applicants submit that the Examiner has not provided a *prima facie* case of obviousness.

**D. Claims 7, 31, and 35 are not obvious under 35 U.S.C. §103(a) over Ball in view of Card, further in view of Wroblewski.**

Claim 7, 31, and 35

Applicants submit that claims 7, 31, and 35 depend upon independent claims 1 and 21, shown above to be nonobvious. Therefore, claims 7, 31, and 35 are not obvious, In re Fine.

Further, the features recited in independent claim 1 are not taught or made obvious by Ball, Card, or Wroblewski, considered individually or in combination. As noted above with respect to claims 1, 11, and 21, the Examiner admits that Ball fails to disclose a visual indicator showing persistence values of the user-specified concept of interest. As also noted above, Card fails to disclose the visual indicator recited in claim 1. Further, there is no teaching or suggestion in Card that the graphical input widget may be applied to anything other

than database analysis. As well, there is no motivation to combine Ball and Card, and the only motivation to combine Ball and Card is based on impermissible hindsight. In addition, as noted above with respect to claim 1, Card evidences the unpredictability of the combination asserted by the Examiner.

Wroblewski does not save the deficiencies of Ball and Card. Wroblewski teaches the display of vertical and horizontal scroll bars that indicate the vertical and horizontal locations of attributes in an electronic document. For example, as depicted in Fig. 2 of Wroblewski, scroll bar indicia 18 and 18a indicate the vertical and horizontal positions of the word "taxonomy" in the displayed document. Thus, Wroblewski is directed only towards displaying the positions or locations of attributes in a document. Applicant submits that Wroblewski does not teach or suggest displaying persistence values at locations within the document, as recited in claim 1, where the values are determined based upon a number of occurrences of discussion of a user-specified concept at locations in a document, and where the values reflect relative concentrations of the user-specified concept at various locations in the document.

Therefore, Applicants submit that claims 7, 31, and 35 are nonobvious and are in a condition for allowance.

**CONCLUSION**

In view of the foregoing, Applicants believe all claims pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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**Claims Appendix**

1. (Previously Presented) A method of displaying an electronically stored document, said method comprising:
  - receiving user input identifying a user-specified concept of interest;
  - analyzing said electronically stored document to identify occurrences of discussion of said user-specified concept of interest in the electronically stored document; and
  - displaying a visual indicator showing persistence values of the user-specified concept of interest at locations within the electronically stored document, the persistence values of the user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the user-specified concept of interest at the locations,wherein, for a location within the electronically stored document, the visual indicator displays a persistence value of the user-specified concept of interest at that location relative to persistence values of the user-specified concept of interest at other locations in the electronically stored document,
  - wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.
2. (Previously Presented) The method of claim 1 wherein said visual indicator comprises a contour graph image.
3. (Previously Presented) The method of claim 1 wherein said visual indicator comprises a line graph.

4. (Previously Presented) The method of claim 1 wherein said visual indicator comprises a bar graph.

5. (Previously Presented) The method of claim 1 wherein said visual indicator comprises a scatter diagram.

6. (Cancelled).

7. (Previously Presented) The method of claim 31 further comprising:  
accepting user input moving said slider to a second section of said visual indicator; and

responsive to movement of said slider to said second section of said visual indicator, displaying a section of said electronically stored document corresponding to said second section of said visual indicator on said display.

8. (Previously Presented) The method of claim 1 further comprising:  
displaying an elongated thumbnail image of a portion of said electronically stored document in a viewing area of a display, wherein portions of said elongated thumbnail image corresponding to said occurrences of discussion in said portion of the electronically stored documents are annotated.

9. (Cancelled).

10. (Previously Presented) A method of displaying an electronically stored document, said method comprising:  
receiving user input identifying a plurality of user-specified concepts of interest;

displaying a plurality of selectable concept indicators, said selectable concept indicators corresponding to said user-specified concepts of interest;

accepting user input selecting a first selectable concept indicator from said plurality of selectable concept indicators corresponding to a first user-specified concept of interest;

analyzing said electronically stored document to identify occurrences in said electronically stored document where said first user-specified concept of interest is discussed; and

displaying a visual indicator showing persistence values of the first user-specified concept of interest at locations in said electronically stored document, the persistence values of the first user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the first user-specified concept of interest at the locations,

wherein, for a location within the electronically stored document, the visual indicator displays a persistence value of the first user-specified concept of interest at that location relative to persistence values of the first user-specified concept of interest at other locations in the electronically stored document,

wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.

11. (Previously Presented) A computer program product stored on a computer readable medium for displaying an electronically stored document, said computer program product comprising:



code for receiving user input identifying a user-specified concept of interest;  
code for analyzing said electronically stored document to identify occurrences of discussion of said user-specified concept of interest in the electronically stored document; and  
code for displaying a visual indicator showing persistence values of the user-specified concept of interest at locations within the electronically stored document, the persistence values of the user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the user-specified concept of interest at the locations,

wherein, for a location within the electronically stored document, the visual indicator displays a persistence value of the user-specified concept of interest at that location relative to persistence values of the user-specified concept of interest at other locations in the electronically stored document,

wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.

12. (Previously Presented) The computer program product of claim 11 wherein said visual indicator comprises a contour graph image.

13. (Previously Presented) The computer program product of claim 11 wherein said visual indicator comprises a line graph.

14. (Previously Presented) The computer program product of claim 11 wherein said visual indicator comprises a bar graph.

15. (Previously Presented) The computer program product of claim 11 wherein said visual indicator comprises a scatter diagram.

16. (Cancelled).

17. (Previously Presented) The computer program product of claim 33 further comprising:

code for accepting user input moving said slider to a second section of said visual indicator; and

code for displaying a section of said electronically stored document corresponding to said second section of said visual indicator on said display responsive to movement of said slider to said second section of said visual indicator.

18. (Previously Presented) The computer program product of claim 11 further comprising:

code for displaying an elongated thumbnail image of a portion of said electronically stored document in a viewing area of a display, wherein portions of said elongated thumbnail image corresponding to said occurrences of discussion in said portion of the electronically stored documents are annotated.

19. (Cancelled).

20. (Previously Presented) A computer program product stored on a computer readable medium for providing an interest profile for an electronically stored document, said computer program product comprising:

code for receiving user input identifying a plurality of user-specified concepts of interest;

code for displaying a plurality of selectable concept indicators, said selectable concept indicators corresponding to said user-specified concepts of interest;

code for accepting user input selecting a first selectable concept indicator from said plurality of selectable concept indicators corresponding to a first user-specified concept of interest;

code for analyzing said electronically stored document to identify occurrences in said electronically stored document where said first user-specified concept of interest is discussed;

code for displaying a visual indicator showing persistence values of the first user-specified concept of interest at various locations in said electronically stored document, the persistence values of the first user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the first user-specified concept of interest at the locations,

wherein, for a location within the electronically stored document, the visual indicator displays a persistence value of the first user-specified concept of interest at that location relative to persistence values of the first user-specified concept of interest at other locations in the electronically stored document,

wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.

21. (Previously Presented) A system for providing an interest profile for an electronically stored document, said system comprising:

a memory;

a display;

a processor, interconnected to said memory and said display by a bus, said processor operatively disposed to:

receive user input identifying a user-specified concept of interest;

analyze said electronically stored document to identify occurrences of discussion of said user-specified concept of interest in the electronically stored document; and

display a visual indicator showing persistence values of the user-specified concept of interest at locations within the electronically stored document, the persistence values of the user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the user-specified concept of interest at the locations,

wherein, for a location within the electronically stored document, the visual indicator displays a persistence value of the user-specified concept of interest at that location relative to persistence values of the user-specified concept of interest at other locations in the electronically stored document,

wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.

22. (Previously Presented) The system of claim 21 wherein said visual indicator comprises a contour graph image.

23. (Previously Presented) The system of claim 21 wherein said visual indicator comprises a line graph.

24. (Previously Presented) The system of claim 21 wherein said visual indicator comprises a bar graph.

25. (Previously Presented) The system of claim 21 wherein said visual indicator comprises a scatter diagram.

26. (Cancelled).

27. (Previously Presented) The system of claim 35, wherein said processor is further operative to:

accept user input moving said slider to a second section of said visual indicator;  
and

display a section of said electronically stored document corresponding to said second section of said visual indicator on said display responsive to movement of said slider to said second section of said visual indicator.

28. (Previously Presented) The system of claim 21, wherein said processor is further operative to:

display an elongated thumbnail image of a portion of said electronically stored document in a viewing area of said display, wherein portions of said elongated thumbnail image corresponding to said occurrences of discussion in said portion of the electronically stored documents are annotated.

29. (Cancelled).

30. (Previously Presented) A system for providing an interest profile for an electronically stored document, said system comprising:

a memory;

a display;

a processor, interconnected to said memory and said display by a bus, said processor operatively disposed to:

receive user input identifying a plurality of user-specified concepts of interest;

display a plurality of selectable concept indicators, said selectable concept indicators corresponding to said user-specified concepts of interest;

accept user input selecting a first selectable concept indicator from said plurality of selectable concept indicators corresponding to a first user-specified concept of interest;

analyze said electronically stored document to identify occurrences in said electronically stored document where said first user-specified concept of interest is discussed; and

display a visual indicator showing persistence values of the first user-specified concept of interest at various locations in said electronically stored document, the persistence values of the first user-specified concept of interest at the locations determined based upon a number of the occurrences of discussion of the first user-specified concept of interest at the locations,

wherein, for a location within the electronically stored document, the visual indicator displays a persistence value of the first user-specified concept of interest at that location relative to persistence values of the first user-specified concept of interest at other locations in the electronically stored document,

wherein the visual indicator comprises a first axis representing locations within the electronically stored document and a second axis representing persistence values of a user-specified concept of interest.

31. (Previously Presented) The method of claim 1 further comprising:  
displaying a section of said electronically stored document on a display; and  
displaying a slider on said visual indicator, said slider highlighting a section of said visual indicator corresponding to said section of said electronically stored document displayed on said display.

32. (Previously Presented) The method of claim 10 further comprising:  
accepting user input selecting a second selectable concept indicator from said plurality of selectable concept indicators corresponding to a second user-specified concept of interest; and  
displaying, in the visual indicator, persistence values of the second user-specified concept of interest at the locations in said electronically stored document.

33. (Previously Presented) The computer program product of claim 11 further comprising:

code for displaying a section of said electronically stored document on a display;  
and

code for displaying a slider on said visual indicator, said slider highlighting a section of said visual indicator corresponding to said section of said electronically stored document displayed on said display.

34. (Previously Presented) The computer program product of claim 20 further comprising:

code for accepting user input selecting a second selectable concept indicator from said plurality of selectable concept indicators corresponding to a second user-specified concept of interest; and

code for displaying, in the visual indicator, persistence values of the second user-specified concept of interest at the locations in said electronically stored document.

35. (Previously Presented) The system of claim 21 wherein said processor is further operative to:

display a section of said electronically stored document on said display; and

display a slider on said visual indicator, said slider highlighting a section of said visual indicator corresponding to said section of said electronically stored document displayed on said display.

36. (Previously Presented) The system of claim 30 wherein said processor is further operative to:



accept user input selecting a second selectable concept indicator from said plurality of selectable concept indicators corresponding to a second user-specified concept of interest; and

display, in the visual indicator, persistence values of the second user-specified concept of interest at the locations in said electronically stored document.

37. (Previously Presented) A method of displaying an electronically stored document, the method comprising:

receiving user input identifying a first concept of interest and a second concept of interest;

analyzing said electronically stored document to identify occurrences of discussion of the first concept of interest and the second concept of interest in the electronically stored document;

determining persistence values of the first concept of interest at locations within the electronically stored document based upon the occurrences of discussion of the first concept of interest in the electronically stored document;

determining persistence values of the second concept of interest at locations within the electronically stored document based upon the occurrences of discussion of the second concept of interest in the electronically stored document;

determining combined persistence values of the first concept of interest and the second concept of interest at locations within the electronically stored document based upon the persistence values of the first concept of interest and the persistence values of the second concept of interest at locations within the electronically stored document; and

displaying a visual indicator showing the combined persistence values of the first concept of interest and the second concept of interest at locations within the electronically stored document.

**Evidence Appendix:**

none.

**Related Proceedings Appendix:**

none.